

10/717,868

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID: ssspta1203mxm

PASSWORD :

TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * * * * * * * * * Welcome to STN International * * * * * * * * * * *

NEWS 1 Web Page URLs for STN Seminar_Schedule - N. America
NEWS 2 "Ask CAS" for self-help around the clock
NEWS 3 DEC 05 CASREACT(R) - Over 10 million reactions available
NEWS 4 DEC 14 2006 MeSH terms loaded in MEDLINE/LMEDLINE
NEWS 5 DEC 14 2006 MeSH terms loaded for MEDLINE file segment of TOXCENTER
NEWS 6 DEC 14 CA/CAplus to be enhanced with updated IPC codes
NEWS 7 DEC 21 IPC search and display fields enhanced in CA/CAplus with the
IPC reform
NEWS 8 DEC 23 New IPC8 SEARCH, DISPLAY, and SELECT fields in USPATFULL/
USPAT2
NEWS 9 JAN 13 IPC 8 searching in IFIPAT, IFIUDB, and IFICDB
NEWS 10 JAN 13 New IPC 8 SEARCH, DISPLAY, and SELECT enhancements added to
INPADOC
NEWS 11 JAN 17 Pre-1988 INPI data added to MARPAT
NEWS 12 JAN 17 IPC 8 in the WPI family of databases including WPIFV
NEWS 13 JAN 30 Saved answer limit increased
NEWS 14 JAN 31 Monthly current-awareness alert (SDI) frequency
added to TULSA

NEWS EXPRESS JANUARY 03 CURRENT VERSION FOR WINDOWS IS V8.01,
CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
AND CURRENT DISCOVER FILE IS DATED 19 DECEMBER 2005.
V8.0 USERS CAN OBTAIN THE UPGRADE TO V8.01 AT
<http://download.cas.org/express/v8.0-Discover/>

| | |
|------------|---|
| NEWS HOURS | STN Operating Hours Plus Help Desk Availability |
| NEWS INTER | General Internet Information |
| NEWS LOGIN | Welcome Banner and News Items |
| NEWS PHONE | Direct Dial and Telecommunication Network Access to STN |
| NEWS WWW | CAS World Wide Web Site (general information) |

Enter NEWS followed by the item number or name to see news on that specific topic.

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FILE 'HOME' ENTERED AT 15:24:35 ON 07 FEB 2006

10/717,868

| | | |
|-------------------------------------|---------------------|------------------|
| => file reg
COST IN U.S. DOLLARS | SINCE FILE
ENTRY | TOTAL
SESSION |
| FULL ESTIMATED COST | 0.21 | 0.21 |

FILE 'REGISTRY' ENTERED AT 15:24:40 ON 07 FEB 2006
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2006 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 6 FEB 2006 HIGHEST RN 873652-66-5
DICTIONARY FILE UPDATES: 6 FEB 2006 HIGHEST RN 873652-66-5

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Structure search iteration limits have been increased. See HELP SLIMITS
for details.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

```
=> s tiotropium
L1          11 TIOTROPIUM

=> d 1-11
```

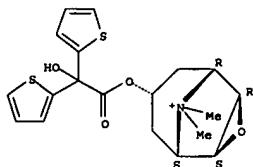
10/717,868

L1 ANSWER 1 OF 11 REGISTRY COPYRIGHT 2006 ACS on STN
RN 851029-97-5 REGISTRY
ED Entered STN: 24 May 2005
CN 3-Oxa-9-azoniarotricyclo[3.3.1.0_{2,4}]nonane, 7-[(hydroxydi-2-thienylacetyl)oxy]-9,9-dimethyl-, (1α,2β,4β,5α,7,β)-, phosphate (2:1) (salt) (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Tiotropium hydrogen phosphate
PS STEREOSEARCH
MF C19 H22 N O4 S2 . 1/2 H O4 P
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

CM 1

CRN 186691-13-4
CMP C19 H22 N O4 S2

Relative stereochemistry.



CM 2

CRN 14066-19-4
CMP H O4 P



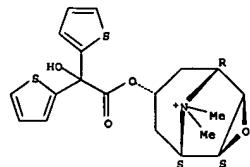
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L1 ANSWER 2 OF 11 REGISTRY COPYRIGHT 2006 ACS on STN
RN 851029-96-4 REGISTRY
ED Entered STN: 24 May 2005
CN 3-Oxa-9-azoniarotricyclo[3.3.1.0_{2,4}]nonane, 7-[(hydroxydi-2-thienylacetyl)oxy]-9,9-dimethyl-, (1α,2β,4β,5α,7,β)-, phosphate (3:1) (salt) (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Tiotropium phosphate
PS STEREOSEARCH
MF C19 H22 N O4 S2 . 1/3 H O4 P
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

CM 1

CRN 186691-13-4
CMP C19 H22 N O4 S2

Relative stereochemistry.



CM 2

CRN 14265-44-2
CMP O4 P



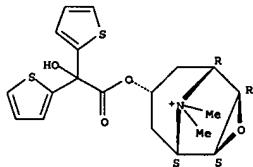
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L1 ANSWER 3 OF 11 REGISTRY COPYRIGHT 2006 ACS on STN
RN 851029-95-3 REGISTRY
ED Entered STN: 24 May 2005
CN 3-Oxa-9-azoniarotricyclo[3.3.1.0_{2,4}]nonane, 7-[(hydroxydi-2-thienylacetyl)oxy]-9,9-dimethyl-, (1α,2β,4β,5α,7,β)-, sulfate (2:1) (salt) (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Tiotropium sulfate
PS STEREOSEARCH
MF C19 H22 N O4 S2 . 1/2 O4 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

CM 1

CRN 186691-13-4
CMP C19 H22 N O4 S2

Relative stereochemistry.



CM 2

CRN 14808-79-8
CMP O4 S



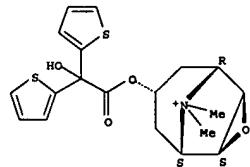
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L1 ANSWER 4 OF 11 REGISTRY COPYRIGHT 2006 ACS on STN
RN 412010-64-1 REGISTRY
ED Entered STN: 07 May 2002
CN 3-Oxa-9-azoniarotricyclo[3.3.1.0_{2,4}]nonane, 7-[(hydroxydi-2-thienylacetyl)oxy]-9,9-dimethyl-, (1α,2β,4β,5α,7,β)-, salt with 4-methylbenzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Tiotropium p-toluenesulfonate
PS STEREOSEARCH
MF C19 H22 N O4 S2 . C7 H7 O3 S
SR CA
LC STN Files: CA, CAPLUS, USPAT2, USPATFULL

CM 1

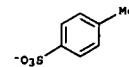
CRN 186691-13-4
CMP C19 H22 N O4 S2

Relative stereochemistry.



CM 2

CRN 16722-51-3
CMP C7 H7 O3 S



19 REFERENCES IN FILE CA (1907 TO DATE)
19 REFERENCES IN FILE CAPLUS (1907 TO DATE)

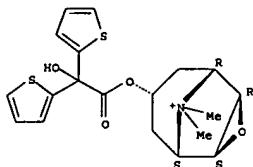
10/717,868

L1 ANSWER 5 OF 11 REGISTRY COPYRIGHT 2006 ACS on STN
RN 412010-63-0 REGISTRY
ED Entered STN: 07 May 2002
CN 3-Oxa-9-azoniarotricyclo[3.3.1.0_{2,4}]nonane, 7-[(hydroxydi-2-thienylacetyl)oxy]-9,9-dimethyl-, (1α,2β,4β,5α,7β)-, methyl sulfate (salt) (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Tiotropium methylsulfate
PS STEREOSEARCH
MP C19 H22 N O4 S2 . C H3 O4 S
SR CA
LC STN Files: CA, CAPLUS, USPAT2, USPATFULL

CM 1

CRN 186691-13-4
CMP C19 H22 N O4 S2

Relative stereochemistry.



CM 2

CRN 21228-90-0
CMP C H3 O4 S

Me=O-SO₃⁻

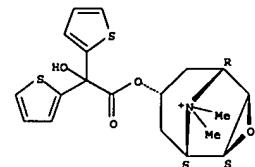
16 REFERENCES IN FILE CA (1907 TO DATE)
16 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L1 ANSWER 6 OF 11 REGISTRY COPYRIGHT 2006 ACS on STN
RN 412010-62-9 REGISTRY
ED Entered STN: 07 May 2002
CN 3-Oxa-9-azoniarotricyclo[3.3.1.0_{2,4}]nonane, 7-[(hydroxydi-2-thienylacetyl)oxy]-9,9-dimethyl-, (1α,2β,4β,5α,7β)-, methanesulfonate (salt) (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Tiotropium methanesulfonate
PS STEREOSEARCH
MP C19 H22 N O4 S2 . C H3 O3 S
SR CA
LC STN Files: CA, CAPLUS, USPAT2, USPATFULL

CM 1

CRN 186691-13-4
CMP C19 H22 N O4 S2

Relative stereochemistry.



CM 2

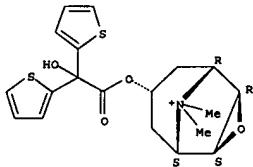
CRN 16053-58-0
CMP C H3 O3 S



21 REFERENCES IN FILE CA (1907 TO DATE)
21 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L1 ANSWER 7 OF 11 REGISTRY COPYRIGHT 2006 ACS on STN
RN 412010-61-8 REGISTRY
ED Entered STN: 07 May 2002
CN 3-Oxa-9-azoniarotricyclo[3.3.1.0_{2,4}]nonane, 7-[(hydroxydi-2-thienylacetyl)oxy]-9,9-dimethyl-, iodide, (1α,2β,4β,5.alph.a.,7β)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN tiotropium iodide
PS STEREOSEARCH
MP C19 H22 N O4 S2 . I
SR CA
LC STN Files: CA, CAPLUS, USPAT2, USPATFULL
CRN (186691-13-4)

Relative stereochemistry.

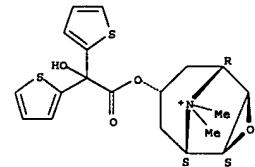


● I⁻

21 REFERENCES IN FILE CA (1907 TO DATE)
21 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L1 ANSWER 8 OF 11 REGISTRY COPYRIGHT 2006 ACS on STN
RN 412010-60-7 REGISTRY
ED Entered STN: 07 May 2002
CN 3-Oxa-9-azoniarotricyclo[3.3.1.0_{2,4}]nonane, 7-[(hydroxydi-2-thienylacetyl)oxy]-9,9-dimethyl-, chloride, (1α,2β,4β,5.alph.a.,7β)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN tiotropium chloride
PS STEREOSEARCH
MP C19 H22 N O4 S2 . Cl
SR CA
LC STN Files: CA, CAPLUS, USPAT2, USPATFULL
CRN (186691-13-4)

Relative stereochemistry.



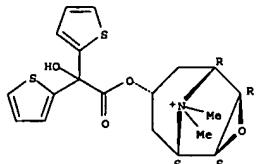
● Cl⁻

21 REFERENCES IN FILE CA (1907 TO DATE)
21 REFERENCES IN FILE CAPLUS (1907 TO DATE)

10/717,868

L1 ANSWER 9 OF 11 REGISTRY COPYRIGHT 2006 ACS on STN
RN 411207-31-3 REGISTRY
ED Entered STN: 06 May 2002
CN 3-Oxa-9-azoniarotricyclo[3.3.1.0^{2,4}]nonane, 7-[(hydroxydi-2-thienylacetyl)oxy]-9,9-dimethyl-, bromide, monohydrate,
(1^a,2^B,4^B,5^a,7^B)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Tiotropium bromide monohydrate
PS STEREOSEARCH
MF C19 H22 N O4 S2 . Br . H2 O
CI COM
SR CA
LC STN Files: CA, CAPLUS, PATDPASPC, PS, USPAT2, USPATFULL
CRN (186691-13-4)

Relative stereochemistry.

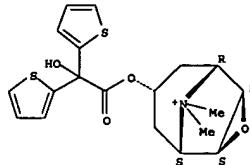


● H₂O

29 REFERENCES IN FILE CA (1907 TO DATE)
29 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L1 ANSWER 10 OF 11 REGISTRY COPYRIGHT 2006 ACS on STN
RN 186691-13-4 REGISTRY
ED Entered STN: 05 Mar 1997
CN 3-Oxa-9-azoniarotricyclo[3.3.1.0^{2,4}]nonane, 7-[(hydroxydi-2-thienylacetyl)oxy]-9,9-dimethyl-, (1^a,2^B,4^B,5^a,7^B)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Tiotropium
PS STEREOSEARCH
MF C19 H22 N O4 S2
CI COM
SR CA
LC STN Files: ADISINSIGHT, BIOSIS, CA, CAPLUS, PATDPASPC, PROUSDDR,
SYNTHLINE, TOXCENTER, USPAT2, USPATFULL

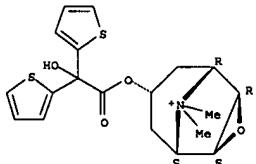
Relative stereochemistry.



127 REFERENCES IN FILE CA (1907 TO DATE)
30 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
127 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L1 ANSWER 11 OF 11 REGISTRY COPYRIGHT 2006 ACS on STN
RN 136310-93-5 REGISTRY
ED Entered STN: 20 Sep 1991
CN 3-Oxa-9-azoniarotricyclo[3.3.1.0^{2,4}]nonane, 7-[(hydroxydi-2-thienylacetyl)oxy]-9,9-dimethyl-, bromide, (1^a,2^B,4^B,5^a,7^B)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 3-Oxa-9-azatriacyclo[3.3.1.0^{2,4}]nonane, 3-oxa-9-azoniarotricyclo[3.3.1.0^{2,4}]nonane deriv.
OTHER NAMES:
CN BA 679BR
CN Spiriva
CN tiopropium
CN Tiotropium bromide
PS STEREOSEARCH
MF C19 H22 N O4 S2 . Br
CI COM
SR CA
LC STN Files: ADISINSIGHT, ADISNEWS, BIOSIS, BIOTECHNO, CA, CAPLUS,
CASREACT, CHEMCATS, CIN, DIOGENES, EMBASE, IMSCOSEARCH, IMSDRUGNEWS,
IMSPATENTS, IMSSRESEARCH, IPA, MEDLINE, MRCK[®], PATDPASPC, PHAR, PIRA,
PRMT, PROUSDDR, PS, SYNTHLINE, TOXCENTER, USPAT2, USPATFULL
(*file contains numerically searchable property data)
CRN (186691-13-4)

Relative stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

156 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
157 REFERENCES IN FILE CAPLUS (1907 TO DATE)

10/717,868

=> d his

(FILE 'HOME' ENTERED AT 15:24:35 ON 07 FEB 2006)

FILE 'REGISTRY' ENTERED AT 15:24:40 ON 07 FEB 2006
L1 11 S TIOTROPIUM

=>

---Logging off of STN---

=>
Executing the logoff script...

=> LOG Y

| COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION |
|----------------------|------------------|---------------|
| FULL ESTIMATED COST | 26.10 | 26.31 |

STN INTERNATIONAL LOGOFF AT 15:25:08 ON 07 FEB 2006

Connection closed by remote host